

Fig. 1

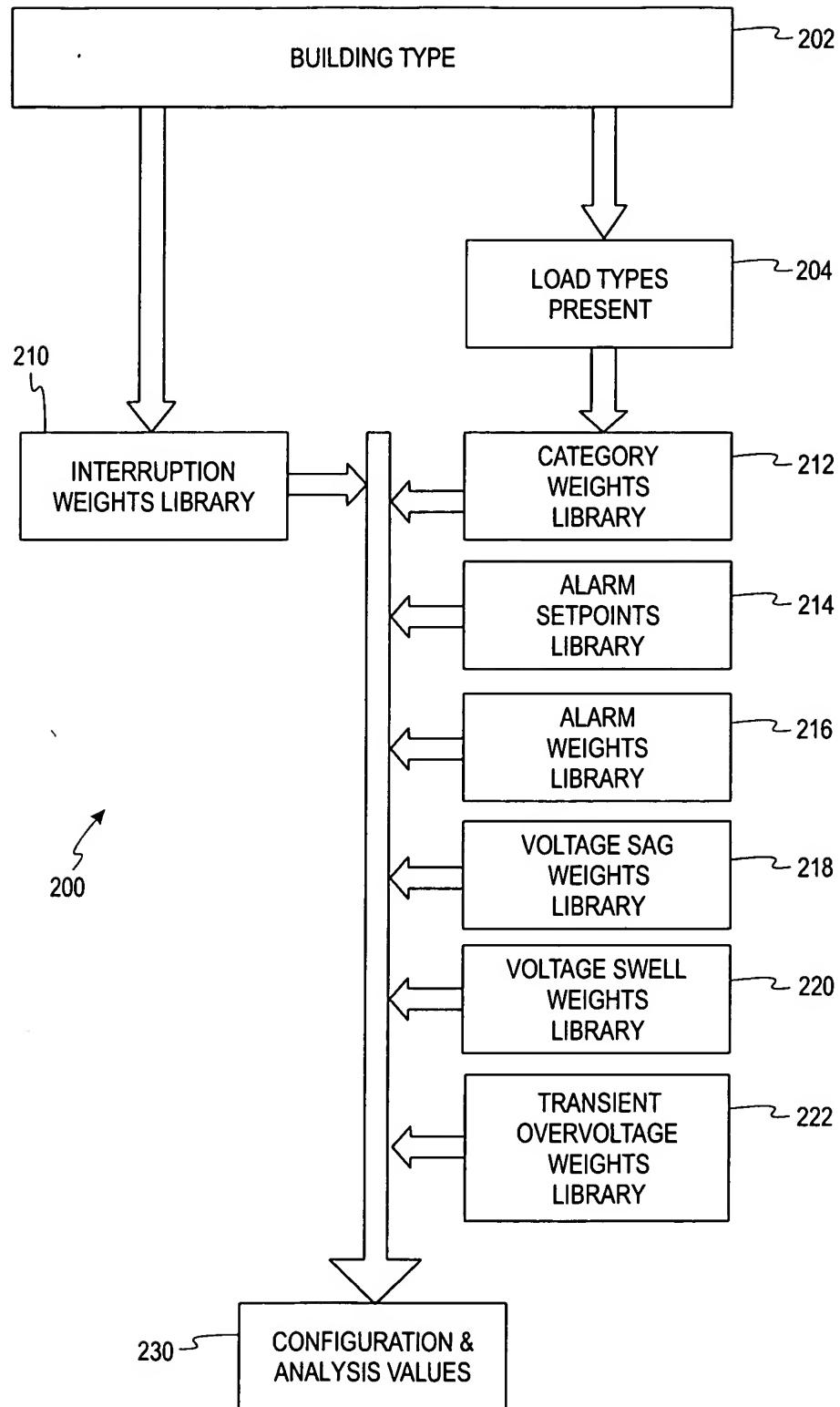


Fig. 2

1	AIRCRAFT HANGER
2	CONTROL TOWER
3	TERMINAL
4	EMERGENCY RESPONSE
5	BAGGAGE HANDLING
6	AMUSEMENT RIDE
7	OFFICE BUILDING
8	RESTAURANT
9	RETAIL
10	CLASSROOM
11	DORMITORY
12	LIBRARY
13	DATA PROCESSING
14	BARRACKS
15	HOSPITAL
16	SEMICONDUCTOR FAB BLDG
17	WASTE WATER TREATMENT PLANT
18	AUTOMOTIVE MANUFACTURING
19	FOOD/BEVERAGE PROCESSING
20	PLASTIC EXTRUSION
21	CEMENT/GLASS/STONE
22	SMETLING
23	PAPER/WOOD/PULP
24	PETROCHEMICAL PROCESSING
25	PHARMACEUTICAL MANUFACTURING
26	PRINTING AND PUBLISHING
27	ARENA
28	CASINO
29	RUBBER/PLASTICS PROCESSING
30	METAL MINING
31	TEXTILE MANUFACTURING
32	OIL DRILLING
33	GYMNASIUM
34	UTILITIES/CENTRAL PLANT
35	SHIPPING
36	WAREHOUSE
37	FURNITURE MANUFACTURING
38	WATER TREATMENT
39	PARKING GARAGE
40	DAIRY
41	GIN
42	BULK MAIL PROCESSING
43	ELECTRONIC MANUFACTURING
44	RAILROAD SYSTEMS
45	WATER/SEWAGE PUMPING STATION
46	OIL WELL

47	AGRICULTURAL PROCESSING
48	METAL FOUNDRY
49	COAL MINE
50	SLAUGHTERHOUSE
51	VETERINARY MEDICINE
52	WATER DRILLING
53	BAKERY
54	MACHINE SHOP
55	COMMUNICATIONS
56	AEROSPACE MANUFACTURING
57	PUBLIC TRANSPORTATION
58	DOCK SHIPPING SHORE POWER
59	BANKING SERVICES
60	HOTEL
61	THEATRE
62	NURSING HOME
63	LABORATORY
64	ZOO
65	CHURCH
66	COURTHOUSE
67	CORRECTIONAL INSTITUTION
68	AEROSPACE CONTROL

Fig. 3
BUILDING TYPES

Fig. 4
LOAD TYPES PRESENT
LIBRARY (EXCERPT)

BUILDING TYPE	MOTORS, POLYPHASE, INDUCTION	MOTORS, POLYPHASE, SYNCHRONOUS	MOTORS, DC GEAR	MOTORS, DC BRUSHLESS	MOTORS, DC SERVO	ASD, DC	ASD, AC PWM	ASD, AC CSI	ASD, AC VSI	LIGHTING, FLUORESCENT	LIGHTING, INCANDESCENT	LIGHTING, HP SODIUM	LIGHTING, LP SODIUM	LIGHTING, MERCURY VAPOR	LIGHTING, METAL HALIDE	LIGHTING, TUNGSTEN HALOGEN	
AIRCRAFT HANGER	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1
AIRCRAFT TOWER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CONTROL TOWER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TERMINAL	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
EMERGENCY RESPONSE	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
BAGGAGE HANDLING	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
AMUSEMENT RIDE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OFFICE BUILDING	1	1	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0
RESTAURANT	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
RETAIL	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
CLASSROOM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
DORMITORY	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0

BUILDING TYPE	INTERRUPTION WEIGHTING LIBRARY		DAILY		WEEKLY		MONTHLY	
	SHORT-TERM INTERRUPTION (< 3 MIN)	LONG-TERM INTERRUPTION (>= 3 MIN)	SHORT-TERM INTERRUPTION (< 3 MIN)	LONG-TERM INTERRUPTION (>= 3 MIN)	SHORT-TERM INTERRUPTION (< 3 MIN)	LONG-TERM INTERRUPTION (>= 3 MIN)	SHORT-TERM INTERRUPTION (< 3 MIN)	LONG-TERM INTERRUPTION (>= 3 MIN)
DEFAULT	0	1	1	2	2	3	3	3
AIRCRAFT HANGER	1	1	1	2	2	3	3	3
CONTROL TOWER	2	1	1	1	1	1	1	1
TERMINAL	3	1	1	2	2	3	3	3
EMERGENCY RESPONSE	4	1	1	2	2	3	3	3
BAGGAGE HANDLING	5	1	1	2	2	3	3	3
AMUSEMENT RIDE	6	1	1	2	2	3	3	3
OFFICE BUILDING	7	1	1	2	2	3	3	3
RESTAURANT	8	1	1	2	2	3	3	3
RETAIL	9	1	1	2	2	3	3	3
CLASSROOM	10	1	1	2	2	3	3	3
DORMITORY	11	1	1	2	2	3	3	3

Fig. 5
INTERRUPTIONS WEIGHTING
LIBRARY (EXCERPT)

LOAD TYPE	CATEGORY WEIGHTS LIBRARY											
	UNDERVOLTAGE		OVERVOLTAGE		VOLTAGE UNBALANCE		WAVEFORM DISTORTION		FREQUENCY DEVIATION		INTERRUPTIONS	
	0	10	9	4	8	4	10	10	10	8	4	8
DEFAULT	0	10	9	4	8	4	10	10	10	8	4	8
AC MOTORS	1	10	10	10	7	3	10	10	10	7	2	8
DC MOTORS	2	10	10	10	7	3	10	10	10	7	2	8
ASDS	3	10	10	8	10	3	10	10	10	8	3	8
LIGHTING 1 (INC., FLUOR.)	4	7	8	0	5	3	10	10	10	6	8	5
LIGHTING 2 (HID)	5	9	8	0	5	5	10	10	10	6	7	5
COMPUTERS	6	10	9	0	8	3	10	10	10	9	2	8
MEDICAL IMAGING EQUIPMENT	7	10	9	0	8	3	10	10	10	9	2	8
SEMICONDUCTOR MFG. EQUIPMENT	8	10	9	0	8	3	10	10	9	2	8	
CNC MACHINE TOOLS	9	10	9	0	8	3	10	10	9	2	8	
OFFICE EQUIPMENT	10	10	9	0	8	3	10	10	9	2	8	
ARC FURNACES	11	9	9	5	10	3	10	10	8	8	5	
CAPACITORS	12	10	10	8	10	3	3	5	5	5	5	
TRANSFORMERS	13	10	10	10	8	3	0	0	0	5	8	
REACTORS	14	8	8	8	0	0	0	8	8	0	0	

Fig. 6
CATEGORY WEIGHTS
LIBRARY

LOAD TYPE	0	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
MOTORS, POLYPHASE, INDUCTION	1	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
MOTORS, DC GEAR	2	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
ASD, DC	3	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
LIGHTING, FLOURESCENT	4	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
LIGHTING, HP SODIUM	5	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
COMPUTERS	6	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
MEDICAL IMAGING EQUIPMENT	7	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
SEMICONDUCTOR MANUFACTURING EQUIPMENT	8	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100

Fig. 7

ALARM SETPOINTS LIBRARY

CNC MACHINE TOOLS	9	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
OFFICE EQUIPMENT (COPIERS, PRINTERS)	10	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
ARC FURNACE	11	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
CAPACITORS	12	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
TRANSFORMERS	13	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100
REACTOR	14	9500	9000	10500	11000	150	200	400	500	250	300	10050	10083	9950	9917	50	100

Fig. 7-1

ALARM SETPOINTS LIBRARY

LOAD TYPE	ALARM WEIGHTING LIBRARY	0	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER FLICKER LEVEL 2
MOTORS, POLYPHASE, INDUCTION	1	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER FLICKER LEVEL 1	
MOTORS, DC GEAR	2	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	UNDER FREQUENCY LEVEL 2	
ASD, DC	3	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	UNDER FREQUENCY LEVEL 1	
LIGHTING, FLOURESCENT	4	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER FREQUENCY LEVEL 2	
LIGHTING, HP SODIUM	5	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER FREQUENCY LEVEL 1	
COMPUTERS	6	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER WORST HARMONIC LEVEL 2	
MEDICAL IMAGING EQUIPMENT	7	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER WORST HARMONIC LEVEL 1	
SEMICONDUCTOR MANUFACTURING EQUIPMENT	8	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER THD LEVEL 2	
CNC MACHINE TOOLS	9	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER THD LEVEL 1	
OFFICE EQUIPMENT (COPIERS, PRINTERS)	10	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER FLICKER LEVEL 2	
ARC FURNACE	11	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER FLICKER LEVEL 1	
CAPACITORS	12	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	UNDER FREQUENCY LEVEL 2	
TRANSFORMERS	13	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	UNDER FREQUENCY LEVEL 1	
REACTOR	14	240	120	240	120	600	100	600	10	600	10	120	30	120	30	800	60	OVER FLICKER LEVEL 2	

Fig. 8

ALARM WEIGHTS LIBRARY

DEPTH (D) % NOMINAL	DURATION (T) SECONDS										
	0.01<= t < 0.02	0.02<= t < 0.05	0.05<= t < 0.1	0.1<= t < 0.2	0.2<= t < 0.5	0.5<= t <1	1<= t <3	3<= t <10	10<= t <20	20<= t <60	60<= t <180
10 <= D < 20	OK	OK	OK	OK	OK	OK	OK	OK	1	1	1
20 <= D < 30	OK	OK	OK	OK	OK	1	1	1	1	1	1
30 <= D < 40	OK	1	1	1	1	1	1	1	1	1	1
40 <= D < 50	OK	1	1	1	1	1	1	1	1	1	1
50 <= D < 60	OK	1	1	1	1	1	1	1	1	1	1
60 <= D < 80	OK	1	1	1	1	1	1	1	1	1	1
80 <= D < 99	OK	1	1	1	1	1	1	1	1	1	1

Fig. 9
VOLTAGE SAGS WEIGHTING
LIBRARY (EXCERPT)

MAGNITUDE (M) % NOMINAL	DURATION (T) SECONDS										
	0.01<= t < 0.02	0.02<= t < 0.05	0.05<= t < 0.1	0.1<= t < 0.2	0.2<= t < 0.5	0.5<= t <1	1<= t <3	3<= t <10	10<= t <20	20<= t <60	60<= t <180
110 < M <= 120	OK	OK	OK	OK	OK	1	1	1	1	1	1
120 < M <= 130	1	1	1	1	1	1	1	1	1	1	1
130 < M <= 140	1	1	1	1	1	1	1	1	1	1	1
140 < M <= 150	1	1	1	1	1	1	1	1	1	1	1
150 < M <= 170	1	1	1	1	1	1	1	1	1	1	1
170 < M <= 200	1	1	1	1	1	1	1	1	1	1	1
M > 200	1	1	1	1	1	1	1	1	1	1	1

Fig. 10
VOLTAGE SWELLS WEIGHTING
LIBRARY (EXCERPT)

DAILY MAGNITUDE (M) % NOMINAL	DURATION (t) MICROSECONDS						
	$t < 20$	$20 \leq t < 50$	$50 \leq t < 100$	$100 \leq t < 200$	$200 \leq t < 500$	$500 \leq t < 1000$	$1000 \leq t < 2000$
$200 < M \leq 300$	4	4	4	4	4	2	2
$300 < M \leq 400$	4	4	4	4	2	2	2
$400 < M \leq 500$	4	4	4	2	2	2	2
$500 < M \leq 600$	4	4	3	2	2	2	2
$600 < M \leq 700$	4	3	3	2	2	2	2
$700 < M \leq 800$	4	3	3	2	2	2	2
$800 < M \leq 900$	3	3	3	2	2	2	2
$900 < M \leq 1000$	3	3	3	2	2	2	2
$M > 1000$	3	3	3	2	2	2	2

Fig. 11
TRANSIENT OVERVOLTAGE
WEIGHTING LIBRARY (EXCERPT)

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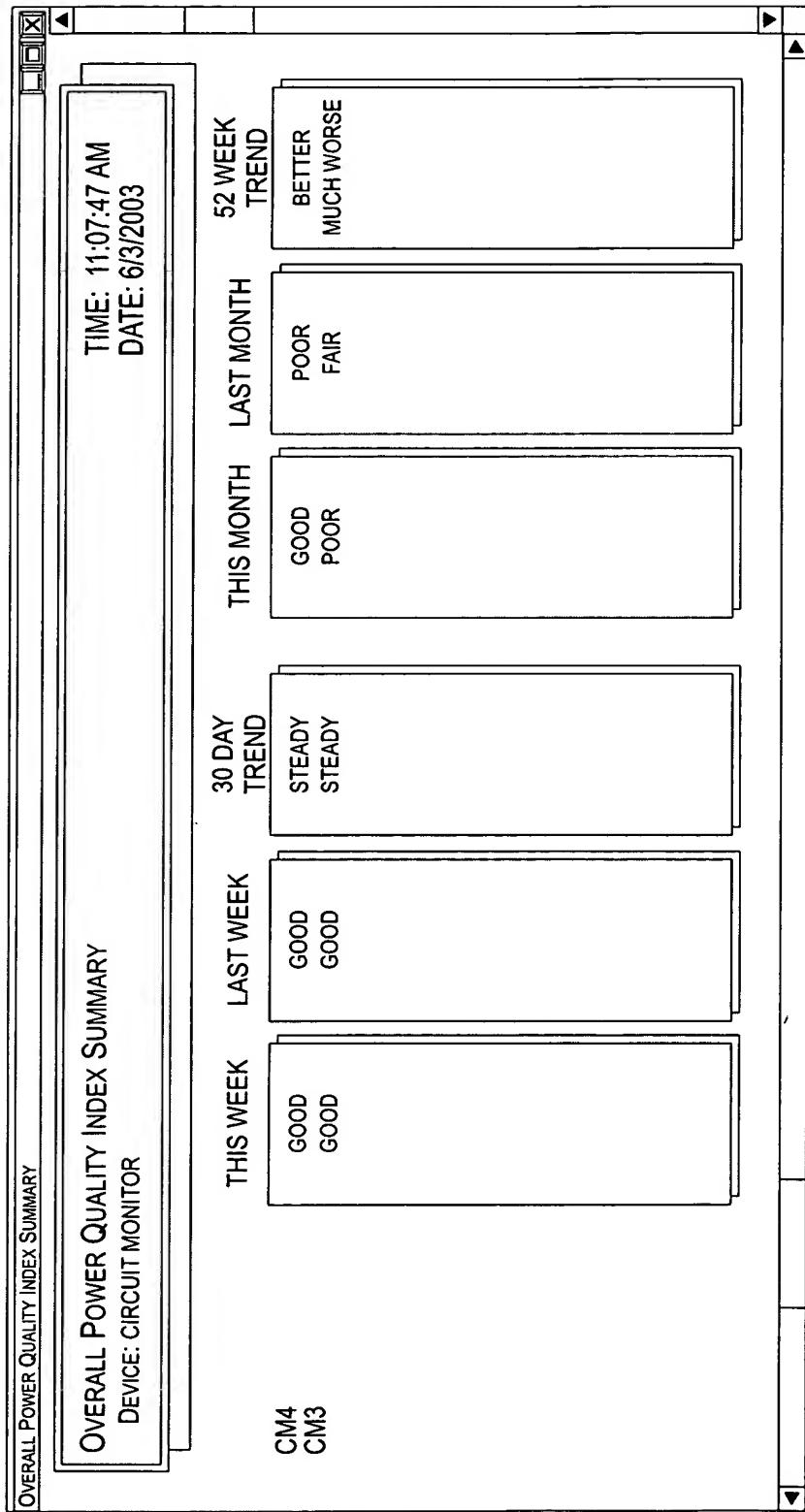


Fig. 12

DISPLAY OF OVERALL POWER
QUALITY INDEX SUMMARY

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POWER QUALITY INDEX READINGS		TIME: 11:07:47 AM		DATE: 6/3/2003	
DEVICE: CIRCUIT MONITOR		LAST WEEK		30 DAY TREND	
OVERALL		FAIR		GOOD	
UNDER VOLTAGE	GOOD	GOOD	STEADY	GOOD	STEADY
OVER VOLTAGE	GOOD	GOOD	STEADY	GOOD	STEADY
VOLTAGE IMBALANCE	FAIR	GOOD	WORSE	FAIR	WORSE
WAVEFORM DISTORTION	POOR	GOOD	MUCH WORSE	POOR	MUCH WORSE
FREQUENCY VARIATIONS	GOOD	GOOD	STEADY	GOOD	STEADY
INTERRUPTIONS	GOOD	GOOD	STEADY	GOOD	STEADY
VOLTAGE SAGS	GOOD	GOOD	STEADY	GOOD	STEADY
VOLTAGE SWELLS	GOOD	GOOD	STEADY	GOOD	STEADY
TRANSIENT OVERVOLTAGES	N/A	N/A	N/A	N/A	N/A
FLICKER	N/A	N/A	N/A	N/A	N/A

Fig. 13
DISPLAY OF POWER
QUALITY INDEX READINGS